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Combat Crew

strategic air command

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Combat Crew

Magazine of the Strategic Air Command – 27th Year of Publication

FLARE

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ON OUR COVER

This month's cover features SAC's SR-71 and highlights of its record-breaking flights. For more on this story, see page 4.

ONE LAST WORD ON DISCIPLINE

UNIVERSITY OF FLORIDA
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LT. GENERAL R. M. HOBAN
Commander, 8AF

During the 36 years of my career, I have witnessed and been part of many changes within the Air Force: propeller driven aircraft have been replaced by jets; aerial refueling has become a reality; the advent of intercontinental ballistic missiles, supersonic flight, and many, many other changes have come about during my service, including the birth of the Air Force as a separate department and the choice of blue for the color of our uniform. These changes have been dramatic when viewed from the perspective of time because they have helped change the course of world events and have vitally affected the history and security of our country.

There are very few things which, in fact, have not been changed or altered since the day I first put on a uniform. There is, however, one constant which has remained unchanged throughout that duration of time; that constant is the basic foundation of all professions and a fundamental characteristic of all professionals.

That unchanging constant? DISCIPLINE.

My message to you, on the eve of my retirement from the Air Force, is to ask you to examine your personal understanding and application of discipline as it applies to your combat crew position.

First of all, discipline is a very personal thing because it begins by you mastering yourself. Before you can master anything else, you must learn to control, perform, exercise, exhibit and practice self-discipline. Only then can you begin to arrange the necessary acts to master procedures, technical systems, and weapon system employment.

Discipline is critical to you, the crew member. It applies to missile crews as well as aircrews because it molds the crew into a team with each member performing his assigned task at the correct time. It's as applicable today as it was when I commanded my first B-17 crew. The crew has always been the basic component of SAC's mission and must set the standards for maintaining strict discipline. Without discipline, the mission and, in turn, the security of our country would be jeopardized.

Discipline isn't easily attained; it takes extra effort and personal sacrifice. A discipline breakdown can be tragic as it was in two recent major aircraft accidents experienced by the command. Eleven lives were lost. In each instance, the crew had a sound aircraft. The first accident would not have occurred if effective discipline had been practiced. In spite of corrective actions taken by the command, a short time later, crew discipline was responsible for the second major accident.

Obviously, we cannot tolerate this waste of life or the loss of costly weapon systems. To reverse this trend, I feel we must begin in the area of training. Our programs are designed to provide our crew force with the necessary training required to maintain a high level of proficiency. Flying time is scarce, and from all indications this trend will continue; consequently, each flying crew member must make optimum use of available flight time. You know better than anyone the areas that require emphasis, and again discipline is involved. "Dead-head" time should never be a part of any mission.

Equally important is adhering to prescribed rules, regulations, and directives. The staff has the responsibility to insure that guidance provided to crews is necessary, consistent, and easily understood. Crews have the consequent responsibility of following the letter and spirit of written directives and procedures. These provide the necessary crew

Continued on Page 24

SR-

Major G. T. Morgan (above) and Captain Al Joersz discuss their record-breaking flight.

71

Three crews from the 9 Strategic Reconnaissance Wing at Beale flying the SR-71 broke six world aviation records that were previously held by the MIG-25 and the YF-12A. The missions were flown on 27 and 28 July and the records were set for flight over a 1000-kilometer closed circuit course, over a 15/25 kilometer straight course and for altitude in horizontal flight.

The personnel associated with SR-71 operation are not newcomers to world class record attempts. In September 1974, the SR-71 flew from New York to London in one hour and 54 minutes at a speed of over 1806 mph. On a three-hour and 47 minute flight from London to Los Angeles the SR-71 averaged over 1435 mph. On these flights two new world speed records were set.

In the latest series of record attempts, the mission plan called for crews to attempt to break the world absolute speed record for a closed circuit course and the world class record for speed over a 1000 kilometer (621.4 miles) closed circuit course with 1000 kilogram (2,200 lbs) payload. The current records set in October 1967 by the MIG-25 Foxbat aircraft at 1853 mph for the world absolute speed and 1815 mph for the world class record. World absolute records take in all classes of aircraft, world class records only consider the class of the aircraft. The SR-71 is a Class C-1 Group III jet-engined aircraft.

Two additional speed records were planned. The crews from Beale were also going after the world absolute and the world class speed record over a 15/25 kilometer straight course. The present record of 2070.101 mph was established in June 1965 by the YF-12A, a prototype sistership of the SR-71.

In addition to the four speed record attempts the mission plan called for an assault on the world absolute and world class altitude record for horizontal flight. The YF-12A also holds the altitude record of 80,257.86 feet established in June 1965.

The first record setting flight came early in the morning, July 27, when Maj Adolphus H. Bledsoe Jr., pilot, and Maj John T. Fuller, reconnaissance systems officer, flew the SR-71 to 2116 mph. This set new marks for the world absolute and class records for speed over a closed circuit course.

The course was 1000 kilometers (621.4 miles) long, beginning at Edwards. The SR-71 had a

Major Larry Elliot and PSD technicians adjust survival kit connection during suit-up.

payload of 2200 pounds. The previous record was 1853 mph, held by a USSR MIG-25 Foxbat.

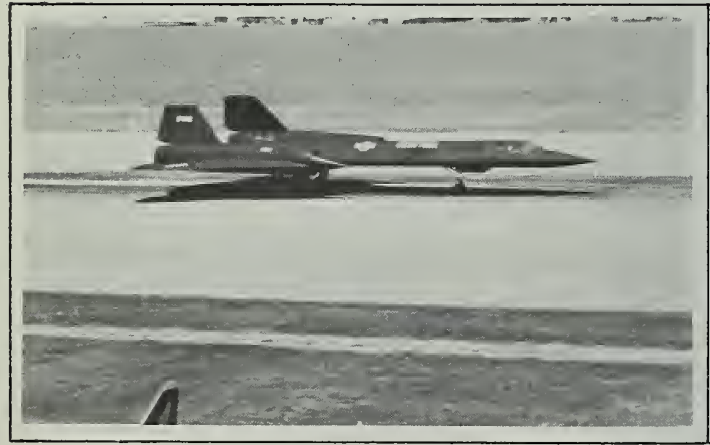
Flying 2194 mph, July 28, a second SR-71 bettered two records and topped unofficial records set just the day before. Capt Eldon W. Joersz, pilot, and Maj George T. Morgan, RSO, set world absolute and class speed records over a 15/25 kilometer straight course.

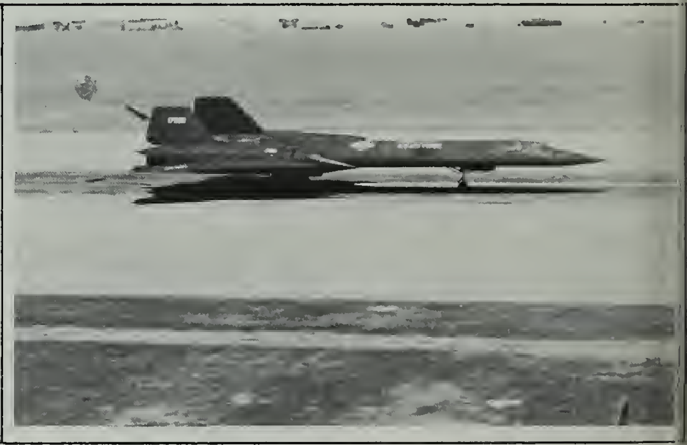
The same crew on July 27 flew 2189 mph to break the record of 2070.101 mph set by the YF-12A, prototype sistership of the SR-71.

Federation Aeronautique International (FAI) certification requires the aircraft to accomplish two consecutive passes without varying altitude more than 150 feet between the two passes. Initial indications were that the first 15/25 kilometer straight course attempt might not be recognized because of incomplete verification.

Altitude accuracy is verified in two ways: by radar which is accurate to within 170 feet; and by highly calibrated cameras. On the second pass, high cloud cover prevented photo verification during the last few seconds of the run.

There was no problem with the speed of the record attempt, which was enough to establish a record. However, accurate altitude measurements are an inte-





gral part of the official record scoring.

Capt Robert C. Helt, pilot, and Maj Larry A. Elliot, RSO, flew to 85,126 feet July 28 to set unofficial world absolute and class altitude records for horizontal flight. The flight breaks the record of 80,257.86 feet held by the FY-12A.

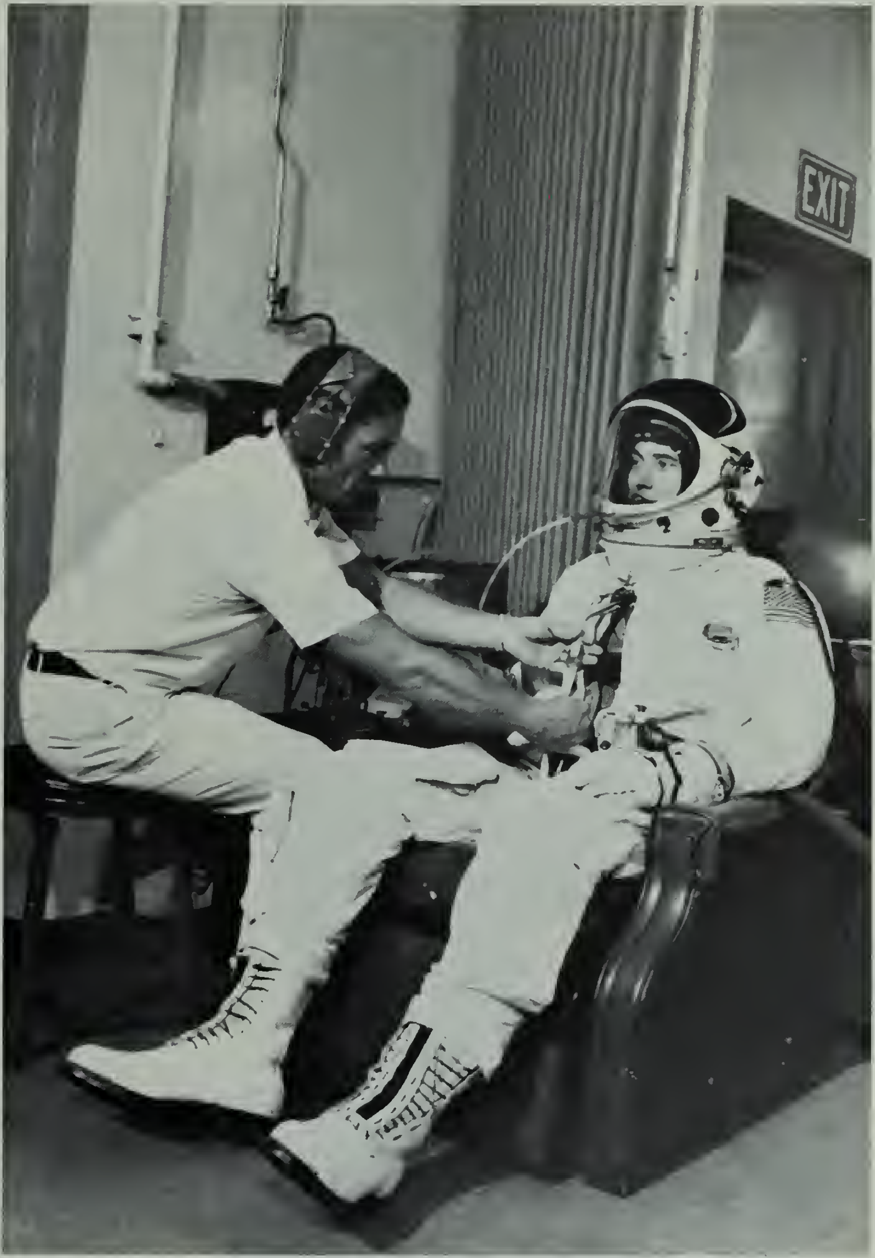
The same SR-71 crew flew to 86,000 feet July 27 in an attempt to break the record. However, the FAI requires aircraft to maintain a level altitude during record attempts. There was a possibility that the SR-71 may have varied its altitude in the first attempt.

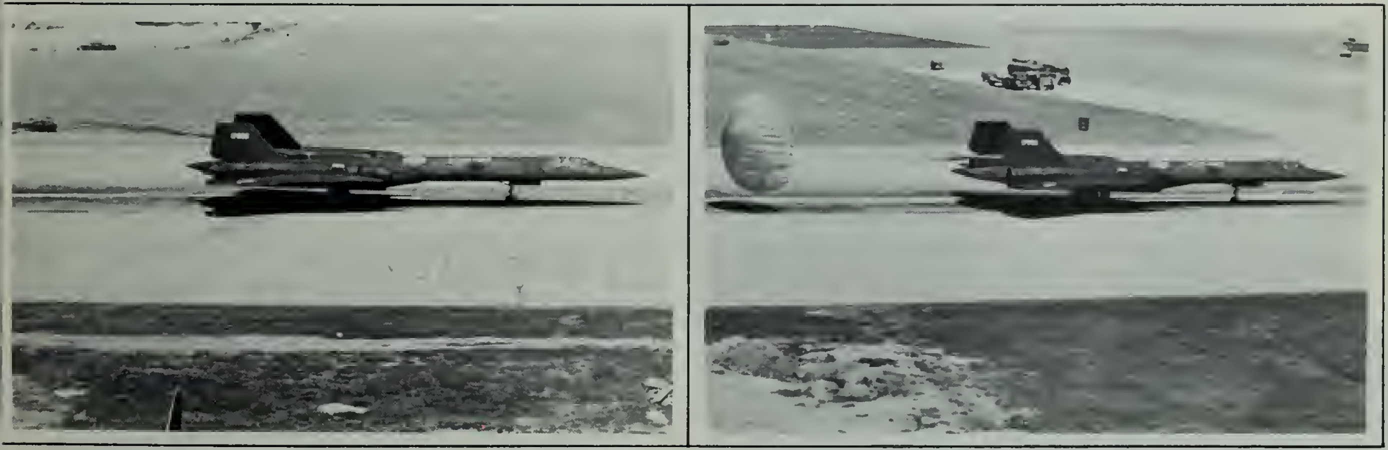
Since verification equipment and FAI scoring officials were available July 28, the makeup day, it was decided to run second record attempts and submit all flights for approval to resolve any possible lack of official verification.

The new records set by all three crews are unofficial at this time, however, verification is expected by the FAI. The FAI is the world accrediting organization for aviation records of all types located in Paris, France.

All three crews are members of the 9 Strategic Reconnaissance Wing at Beale. They flew the aircraft from Beale and recovered there after the missions.

PSD technician, TSgt Bill Owens, performs pressurization and oxygen check on Captain Bob Helt.





SR-71 Landing Sequence photos by SSgt Patrick Nugent

One of in the

How many times have you seen the pilot involved in a pilot error accident described as "one of the finest pilots in the squadron"? Quite often. Do you ever wonder how so many pilots involved in pilot error accidents can be the best in the squadron? As just about everyone realizes, more often than not, the pilot involved was *not* one of the better fliers assigned. Why, then, the glowing endorsements? Probably because either the CO is not truly aware who his best pilots are, or else he is trying to protect the pilot and his squadron. In either case, the cause of accident prevention is not served, and in some cases, safety actually suffers as a result.

Fairly recently, an E-2 crashed three-fourths of a mile short of the runway due to fuel starvation. This accident was a classic example of the "finest pilot" syndrome, and the squadron's failure to recognize earlier that this pilot was not "one of the finest" may have contributed to this costly accident.

The accident occurred on the return leg of a cross-country flight from the west coast to the east coast. Enroute stops were scheduled at two civilian fields and a midwest AFB. The PIC (pilot in command) was an experienced aviator with over 4600 total hours, including 1350 in the E-2 aircraft. His copilot, however, was a non-NATOPS qualified RAG student who had not been in a flying billet for 4 years and had flown just 14 hours in the *Hawkeye*.

The first leg of the return flight was to a northeast civilian field where several crewmembers in a passenger status were picked up. At the second stop, midwest civilian, the final passenger was picked up. Due to a reluctance to refuel at civilian fields, the pilot in command decided not to refuel there and pressed on toward midwest AFB at 10,000 feet in intermittent IMC conditions.

the finest pilots squadron

During climbout, the port low fuel warning light illuminated. The PIC instructed the pilot at the controls to actuate the tank interconnect to balance the fuel load, and this successfully extinguished the low fuel light. But not for long!

Fifty to 60 miles from midwest AFB, both low fuel warning lights came on, prompting the PIC to declare "minimum fuel" with Center. Despite questioning from the copilot concerning the advisability of diverting at this point, the PIC decided to continue toward midwest AFB and received clearance direct. The crew was vectored to a short final for a PAR pickup. The instrument final was requested due to the restricted visibility caused by rain showers in the area. At around 2 miles from the field, the engines started to run intermittently, and at about 1000 feet AGL, both generator lights illuminated as engine RPM decayed. At this time the PIC took control of the aircraft, announced double-engine failure, and attempted an engine relight. That being unsuccessful, the PIC realized that impact was inevitable and instructed the crew to brace for impact. The aircraft struck the ground slightly right wing down, slightly nose high, approximately three-fourths of a mile from the end of the runway. The pilot suffered major injury; the copilot, minor; the passengers, none. The aircraft was destroyed.

The aircraft mishap board determined the reason for engine failure was fuel starvation. No fuel was found in the fuel cells in the wreckage. All other components of the fuel system were investigated and found normal with the exception of the fuel quantity gages which were out of calibration for this particular aircraft. The fuel gages read a total of 560 pounds at the time of the crash.

This, however, was not considered a contributory cause, because the E-2 NATOPS states that the fuel gages are inaccurate at the lower end of the scale, and the low fuel light is the primary indicator of low fuel.

Investigation into the pilot in command's role in the accident revealed some disturbing facts. For starters, the copilot, on his own initiative, planned the flight for the westbound trip back to homebase. When the PIC arrived, the copilot informed him that he had planned the ETE for no wind, and there was in fact 35-40 knots of wind on the nose for their route of flight. The PIC reviewed the flight plan but failed to verify the times or compute the ETE with the forecast winds. This obviously affected the actual flight time and subsequently the fuel used.

An additional negative fuel factor was the PIC's decision to fly the enroute portion of the cross-country flaps up at 200 KIAS, a speed well above the long range predicted cruise and also in violation of CNO restrictions placed on E-2/C-2 aircraft not equipped with the new Hamilton-Standard propellers. Had the CNO restrictions been adhered to, the board opined that the estimated 10 percent increase in fuel consumption would have virtually necessitated refueling at midwest civilian. Furthermore, there was no "howgozit" type of fuel log computed/maintained to keep track of fuel use. The crew apparently was relying heavily on fuel gage indications vice computing a fuel flow indication /time history.

The first indication of a questionable fuel reserve occurred during climbout from midwest civilian. This did not phase the PIC, however, as he continued on course. When both low fuel lights illuminated, the *Hawkeye* was 18 minutes from takeoff on a 40-minute flight, and 60 DME from midwest AFB. At this point in the flight, there was still ample opportunity to effect a safe landing by either returning to midwest civilian or landing at any of the several enroute civilian fields. The PIC's decision not to divert was based on several very questionable assumptions.

At the time both low fuel lights came on, the PIC stated to the board that he knew he was doing 240 knots groundspeed. Then for reasons that do not yield to explanation, the PIC slowed the aircraft to 185 KIAS and dropped one-third flaps. He stated later that he did this because in the back of his mind, he remembered (erroneously) this as the max range configuration. In reality, this was the speed/configuration established by the CNO propeller restruction, and this configuration increased drag, power required, and fuel flow at a point when it was least desirable.

At 10,000 feet, it would have been necessary for the aircraft to indicate approximately 230 knots in order to achieve 240 knots groundspeed with the headwind that existed. The board's opinion was that the PIC failed to recompute the required IAS/TAS for the last leg of the flight at 10,000 feet. The PIC still either assumed himself to be traveling over the ground at 240 knots (discounting the 8000-foot difference in altitude and consequently lower TAS), or he miscalculated his actual groundspeed. Computations by the board indicated that his groundspeed could not have been more than 180 knots, considering distance traveled and time from takeoff at midwest civilian until impact.

A final area of poor judgment was the assignment of the non-NATOPS qualified copilot to this flight. Although not expressly prohibited in the E-2B NATOPS, OPNAVINST 3710.7 series states that a copilot will be NATOPS qualified in model in aircraft carrying passengers, such as this one. Such a qualified pilot was embarked as a passenger, but was not used. Also difficult to comprehend was the PIC's decision to allow the copilot to occupy the left seat, given the copilot's lack of E-2 experience and long absence from flying.

Pilot discrepancies in this mishap seemed completely at odds with pilot's reputation and experience. Accordingly, the board and assigned flight surgeon looked long and hard for underlying human factors or other explanation that might provide insight into this uncharacteristic behavior. Nothing of significance was uncovered. In the course of their investigation, however, it was determined that this pilot had continued flights in the past with low fuel caution lights and had previously flown cross-country with the flaps up.

The board's conclusion was fairly straightforward: The pilot in command failed to adequately plan the flight, did not properly manage his fuel, and violated several prescribed NATOPS procedures. The culmination of erroneous judgment, NATOPS violations, and the overall flight mismanagement was fuel starvation and ultimate impact with a farmer's field. The copilot was exonerated of responsibility.

Despite the board's conclusion and the pilot's violations uncovered on previous flights, the CO described the PIC as a "keenly competitive, stable, and highly professional pilot. He capably imparted his extensive background in transport type IFR flying/cockpit procedures and multiengine instructor philosophy to all pilots within the squadron." The skipper personally found him "attentive, highly skilled, tactically conversant/productive, and dedicated to operational success." It is difficult to correlate these comments with the facts brought out during the accident investigation and the conclusion of the accident board.

This is perhaps a classic example of the "finest pilot" syndrome. It is significant to note that subsequent endorsers identified the contradictions and made appropriate comments. However, the major point is that, hard as it might be, mishap boards and endorsers to accident reports must be completely objective in evaluating personnel involved in the accident. To do less is to degrade the quality of the accident report and the integrity of the reporting system. This, in turn, hinders the investigation from achieving its most important goal — *to prevent future accidents.*

The board made few recommendations concerning corrective action that should stem from this accident. As the board put it: "NATOPS instructions in existence provide sufficient guidance for conduct of cross-country flights. They all make assumptions of mature judgment, thorough planning, and a certain prudent approach to all aircraft operations." The board did recommend a change to the E-2 NATOPS to clarify the role that copilots, not qualified in type, could fill during a cross-country.

Perhaps the most significant comment and recommendation to come out of this accident was stated by an endorser to the accident report. He said: "The failure of knowledgeable squadron personnel to advise the reporting custodian that the PIC had a tendency to deviate from NATOPS is inexcusable. It is the responsibility of each officer/aircrewman to report deviations from NATOPS/SOP or observed unsafe acts to proper authorities, regardless of friendship, loyalty, or seniority. Had the commanding officer been apprised of the deviations reported in this AAR, corrective action could have been taken." Had this been done, it is not unrealistic to conjecture that two serious injuries might have been avoided and one $10.7 million Navy aircraft could still be in the inventory.

REPRINTED FROM "APPROACH"

SAFETY AWARDS

Chief of Staff

Individual Safety Award

The Chief of Staff Individual Safety Award is designated by HQ USAF for presentation to Air Force members or civilian employees who have made significant contributions to safety within the Air Force for the previous calendar year. The SAC member that received this award was an additional duty safety NCO.

TSgt Ricardo N. Guerra
90 Security Police Gp, F E Warren AFB

Koren Kolligian, Jr.

Trophy.

The Koren Kolligian, Jr. Trophy recognizes outstanding feats of airmanship by individual aircrew members who by extraordinary skill, exceptional alertness, ingenuity or proficiency averted aircraft accidents or minimized the seriousness of accidents in terms of injury, loss of life, aircraft damage or other property damage.

CAPTAIN ROBERT C. HELT
9SRW, Beale AFB

TOP HAND

Maj Rich Scredon 1 STRAD
Vandenberg AFB

Capt Victor D. Bras SAC/XPQR
Offutt AFB

Well, it's my move. The Western Test Range is green (all radars ready and flight safety is happy), the on board instrumentation looks good, and the General says go. All right.

"Test Conductor, direct final launch vote at T-43 seconds. CCO, continue the launch."

It really does get quiet the last minute and a half. No one giving me advice now — especially when we are launching a MINUTEMAN III that came from Malmstrom. The system is just a little bit stranger than average.

Okay! Here we go. The final launch vote is in. Wait a second! Nothing is happening!

"Colonel, we might have a problem. I'll get back with you."

Everyone has an opinion now. Just listen to those murmurs — abort, hangfire, safe the missile, do nothing . . .

Well, let me see. Instrumentation looks good, but the batteries won't take much more.

"Test conductor, get me operational status from the crew. TMO, does telemetry indicate the missile entered terminal count?"

TMO: "No, Launch Director, Doesn't look like it here."

Test Conductor: "Launch Director, the crew reports that the sortie is still on alert."

All right! It's the old medium frequency radio preemption problem.

"CCO, announce that liftoff will be delayed."

"Test Conductor, standby to recommit in 30 seconds. CCO, announce a new liftoff time of 0701:43 hours zulu. Test Conductor, recommit at 0701 zulu. Colonel, we have things under control. There was a technical delay peculiar to this type of mission. I will make a full report later."

Okay. The final launch vote is in again. This time it worked. We are in terminal count . . . Liftoff! Well, thank God for one more good decision.

I should feel elated. Right now though, I just feel tired. It has been a long, hard road to this moment. Just about a year ago, I walked into this outfit with nothing but MINUTEMAN modernized crew duty, an economics degree, and a business degree behind me. I had a lot to learn about the weapon system we just tested. I didn't know how a radar operated or how to even spell telemetry. But I learned.

The training guys handed me a couple of large volumes with a smile. The volumes turned out to be a list of references, sectioned off into different areas of study. As I finished the work in each section, the instructors gave me hour upon hour of individual classroom instruction, tests, and discussions on each area of study. They also sent me to MINUTEMAN courses at the 4315th Combat Crew Training Squadron and contractor courses to teach me about the different MINUTEMAN weapons systems configurations. There was also the instrumentation training conducted by the First Strategic Aerospace Division (1 STRAD), the Space and Missile Test Center (SAMTEC), and the Pacific Missile Test Center.

I had trainer rides, visits, tours, and orientations. And then, there was learning by doing.

I was the blue suit support for the Space and Systems Missile Organization's verification of new tech data, hardware, software, and launch of R&D birds. There were lots of long nights in crowded launch control centers with engineers answering many questions for me. When we would get in a long hold in the countdown, I'd get them started on explaining some technical point and end up wishing I hadn't asked anything. But, it has paid off more than once.

I progressed along through the four countdown positions, assuming more and more responsibility. Finally, as Launch Director, I got to do some additional managing. For the last several months, I watched and coordinated every maintenance and operations activity required to bring this missile from Malmstrom Air Force Base, Montana, to Vandenberg Air Force Base, California. Finally, tonight, the payoff! I got to direct launch of the missile.

As for the future. If I work hard, I will be selected for six months of training with the Space and Missile Test Center. I'll work as a Program Support Manager in the MINUTEMAN Branch. That's the job that translates SAC's test requirements into specific radars and launch windows for each launch. Hopefully, I'll get to visit radar and optical facilities along the California coast, midrange in Hawaii, and downrange at the Kwajalein Atoll in the South Pacific. It will be a tremendous learning experience.

After training with SAMTEC, I will return to 1 STRAD to work as a Test Manager. The Test Manager insures that the SAC goals for MINUTEMAN launches are stated in terms of specific requirements for SAMTEC support. He then monitors assigned launch operations as the 1 STRAD Commander's personal representative to insure that the mission requirements are met. I'll have that job for about a year and a half.

After completing my assignment with 1 STRAD, I'll be a "Top Hand" graduate; ready to progress, if selected, to SAC Headquarters.

For right now, though, I'd better get my things together and go home. You know things just aren't the same as they used to be around here. There was a time when the Commander would open up the Club after one of these launches. So what if it's three in the morning!

Such are the thoughts of a typical Launch Director assigned to the Test and Evaluation directorate at the 1st Strategic Aerospace Division at Vandenberg AFB CA. The men assigned here are members of the TOP HAND Program. They were selected by a screening board at SAC from a missile career volunteer list. All selected have achieved outstanding performance, and excelled at their operational base as Standboard and Instructor Crews, staff officers, or Olympic Arena contenders. The competition is extremely keen. For every opening there are approximately ten men to be considered. The planned program consists of initial training through the positions of Launcher Environmental Protective Systems Operator (LCMO), Countdown Control Officer (CCO), Test Conductor (TC), and Launch Director (LD). The training is intense and the qualification ride for each level is conducted "real time" on an actual launch. Usually, the position of Test Conductor is achieved within 9 to 10 months. As a qualified Test Conductor, the TOP HANDER is then sent TDY to an Operational Base to conduct one of the on-going Simulated Electronic Launch — MINUTEMAN (SELM) tests. Throughout the test, he brings his expertise to conduct the "launch" and provides his own Test Sequence Document to be followed by all participants. With a SELM test to his credit, the Test Conductor embarks on Launch Director training. As a Launch Director, he becomes a point of contact with supporting agencies at Vandenberg and interfaces with the Task Force selected for the Launch. The culmination of approximately 18 months of training is the "real time" launch with the Launch Director conducting and directing the various agencies on Vandenberg and (in conjunction with the 1 STRAD Test Manager and the Western Test Range) initiating the final "go" and listening to the resultant roar of a MINUTEMAN as it streaks toward its target in the Pacific.

This does not end the TOP HAND Program, however. Rather, he is just barely through the half way point. Next, he has the opportunity to work at the Space and Missile Test Center (SAMTEC) at Vandenberg. Here, he is exposed to the problems and interworkings of the Program Support Managers and actually performs many of their functions. Through this experience, he grasps an appreciation of the complexities involved and the planning required to develop a support plan to ensure the correct number and type of data and safety sensors are scheduled and operational for each SAC launch.

After approximately 6 months as a Program Support Manager, he returns to the 1 STRAD and begins his training as a Test Manager. As Test Manager, he will be the point of contact between Hq SAC and support agencies at Vandenberg. Also, through TDYs to Seattle, Los Angeles area, and Hill AFB, he meets his counterparts in Systems Command, Logistics Command, and the various supporting contractors like TRW and the Boeing Company. By discussing their methods and problem solving techniques, he becomes an extremely well informed expert in the field of Missile Test. After about 4 years at Vandenberg, all TOP HAND graduates are strongly considered for a variety of assignments. Think you'd be interested?

ABOUT THE AUTHORS

Maj Rick Scredon served as a standboard MCCC and as assistant command post senior controller. Selected for the Top Hand program in 1973, he was the test conductor on the first SELM test conducted at Ellsworth AFB in 1974. After qualifying as a 1STRAD test manager, he was selected as division chief of the test operations branch. He has a B.S. degree in History and an M.S. in Ed Systems Management.

Capt Vic Bras received his Air Force commission through AFROTC at Fordham University. Before being assigned to the Top Hand program, he served as both a DMCCC and MCCC on line, instructor, and standboard crews. He was also a member of the 1972 Blanchard Trophy winning team at the SAC Missile Combat Competition. Capt Bras holds an MBA from the University of Missouri.

USAF SAFETY AWARDS

UNITED STATES AIR FORCE FLIGHT SAFETY PLAQUE

Flight Safety Plaques are awarded to Air Force organizations below air division level for meritorious achievement in flight safety. For CY 1973 through CY 75:

7 Bombardment Wing
305 Air Refueling Squadron
416 Bombardment Wing

UNITED STATES AIR FORCE NUCLEAR SAFETY PLAQUE

The Nuclear Safety Plaques are awarded annually to Air Force and ANG organizations below MAJCOM level for outstanding achievement in nuclear safety during each calendar year.

308 Strategic Missile Wing
319 Bombardment Wing
341 Strategic Missile Wing

UNITED STATES AIR FORCE EXPLOSIVES SAFETY PLAQUE

The Explosives Safety Plaque is awarded annually to Air Force organizations below MAJCOM level for outstanding achievement in explosives safety during each calendar year.

28 Bombardment Wing

UNITED STATES AIR FORCE MISSILE SAFETY PLAQUE

The Missile Safety Plaques are awarded annually to Air Force organizations below MAJCOM level for outstanding achievement in or contribution to missile safety during each calendar year.

1 Strategic Aerospace Division
19 Bombardment Wing
28 Bombardment Wing
42 Bombardment Wing
68 Bombardment Wing
90 Strategic Missile Wing
91 Strategic Missile Wing
99 Strat Recon Sq
100 Strat Recon Wg
308 Strategic Missile Wing
319 Bombardment Wing
320 Bombardment Wing
381 Strategic Missile Wing

UNITED STATES AIR FORCE GROUND SAFETY CERTIFICATES

The Ground Safety Certificate is a new award for units with an authorized strength of less than 100 and who achieve a perfect ground accident record during the award year. Safety officers, look at your complete organization — you may have a detachment that will qualify at the end of 1976.

4200 Test Eval Sq
Det 1, 1CEVG
Det 4, 1CEVG
Det 7, 1CEVG
Det 8, 1CEVG
Det 10, 1CEVG
Det 11, 1CEVG
Det 12, 1CEVG
Det 24, 1CEVG

THE 55TH STRATEGIC RECONNAISSANCE WING REPORTS . .

DIVERSITY OUR SPECIALTY

Captain Sid R. Howard
55SRW, Offutt AFB

Flying is the job of many units in the Air Force, but for one of the flyingest operational outfits in the Strategic Air Command, flying and mission diversity go hand-in-hand. The crews of the 55th Strategic Reconnaissance Wing log hours on four distinct missions involving reconnaissance, SAC Airborne Command Post, airlift of cargo and passengers and the National Emergency Airborne Command Post.

Certainly not a new unit, the history of the 55th began back in 1940 at Hamilton Field, California, where crews prepared for the coming conflict. During WWII, the 55th Fighter Group destroyed more than 400 enemy aircraft. The end of the war called for new directions for many, including the 55th which was reorganized as the 55th Reconnaissance Group. The famous B-17 was converted to an RB-17 with the addition of several intelligence collection packages to the aircraft. This aircraft provided the first photo reconnaissance, mapping and charting information for the United States, Alaska, and the Caribbean.

On Nov. 1, 1950, the unit was given its present title, the 55th Strategic Reconnaissance Wing. The 55th operated out of Ramey AFB flying the RB-29s whose mission included visual observation, radar screen photography, and surveillance of enemy systems. By the end of 1951, the RB-50 became the wing's primary reconnaissance aircraft. This aircraft became famous for its accurate photo reconnaissance capability.

The operation was moved to Forbes AFB in 1952. A long forgotten incident occurred in 1952 when one of the wing's RB-50s was shot down by Soviet MIGs. In September 1954, the wing received its first Boeing RB-47 and a distinguished era began for this historic Air Force unit. The professionalism and expertise of its crewmembers was shown when the 343d garnered first place in the 1959 SAC Bombing, Navigation and Air Refueling Competition.

The RB-47s remained the unit's prime aircraft and took up an additional role with the addition of the ERB-47 with a command and control function. In 1967, the '47s were phased out and a new age of sophisticated aircraft unmatched by anyone came into the inventory. Operating out of Offutt AFB, the -135 aircraft fulfilled the requirements of both a global recon mission, and as a SAC airborne command post. These aircraft were termed RC-135s for reconnaissance use and EC-135s for the command post function.

Today, the mission of the 55th is multifaceted. In addition to operating the Airborne Command Post and flying global reconnaissance missions, the 55th provides Air Force wide C-135 airlift support, maintains a flight simulator training program for other SAC bases, and performs all maintenance support of all aircraft stationed at Offutt including MAC T-39s. To do all this, the commander, Col Guy H. Winstead, Jr, has a force of over 2,550 men and women. To accomplish its share of the mission, the aircrews of the 343d Strategic Reconnaissance Squadron maintain currency in significantly different models of the RC-135 and reconnaissance configured RC-135 aircraft: RC-135M, V, U, and KC-135R and A. In addition to the differences of turbofan versus water-injected engines and receiver air refueling capability, extensive structural modifications have made changes in the operational characteristics and flight limitations that challenge any pilot. Both electronic warfare officers and navigators face similar challenges when operating sophisticated electronic gear used in their specialties.

The 55th is well known for its state-of-the-art airborne systems, requiring extensive local equipment

training. Because of the professionalism and dedication of the wing's reconnaissance crews, the 55th was selected to receive the Paul T. Cullen Memorial Reconnaissance Trophy for being the best reconnaissance unit in SAC for 1975.

A mission vastly different from reconnaissance is carried out by the 2d Airborne Command Post and Control Squadron. The 2ACCS plays an important role as backup for the SAC underground command post which normally controls the U.S. bomber and ICBM forces. In the event the underground is disabled, the airborne command post assumes control of these strategic forces. The post is equipped with the latest command control gear and is manned with an experienced battle staff led by a general officer, and can execute the emergency war order at the direction of the President. A command post has been airborne continuously since early 1961.

The third role of the 55th is to fly the command support aircraft. This mission requires four, passenger-configured C-135 aircraft which fly 1,300 hours a quarter; this equates to more than a typical 15-aircraft tactical squadron. One unique feature of the support aircraft operation is that the aircraft are owned, operated, and maintained by SAC, but are scheduled by the Military Airlift Command to meet global DOD requirements.

New to the 55th is the 1st Airborne Command Control Squadron stationed at Andrews AFB. The 1ACCS' mission is to conduct airborne and ground alert operations necessary to continuously support the National Emergency Airborne Command Post. Beginning in 1972, the 1ACCS' key personnel represented the 1st Composite Wing and Headquarters Command, USAF, at numerous conferences concerning the development of an advanced airborne command post aircraft — the Boeing 747B aircraft, which were modified with the command and control equipment previously used in the EC-135Js. When modified, these 747s were designated as E-4A aircraft. The first E-4A arrived at Andrews AFB for the alert airborne command post on December 7, 1974, and was flown from the contractor's facility by a crew of the 1ACCS. The 1ACCS was reassigned to SAC and further to the 55SRW effective November 1, 1975. This transfer did not involve the physical movement of aircraft or personnel.

The maintenance and logistics problems associated with the support of such diverse missions and complex aircraft can be a nightmare. The wing maintenance people launch and recover more than 2,700 sorties a year, regardless of the conditions. When the Nebraska winter dropped two feet of wind-whipped snow one day last year, the airborne command post continued to operate from its alternate bases without interruption of its vital defense link.

For 30 years, the men and women of the 55th have been getting the job done, from combating fighters over Europe to global reconnaissance, from one-seater prop aircraft to some of the most sophisticated airplanes in the Air Force inventory.

Safety is of prime concern to the 55th as shown by the enviable record of the alert airborne command post which has flown over 16,000 accident free sorties and 149,500 flying hours. Diversity in a safe manner continues to be the specialty of the 55th Strategic Reconnaissance Wing.

ABOUT THE AUTHOR

Capt Howard has been qualified as an instructor in the F-105G and B-52H. He graduated from the University of Michigan with a master's degree in business and has a diversified background in electronic systems beginning in the ADC. He is presently an instructor electronic warfare officer with the 343SRS, Offutt AFB.

TIME TO WIN

About this time of the year, because I live north of the Mason-Dixon line, I start combing through the garage looking for the snow shovel — it's probably buried under the lawn chairs, garden hose, lawn sprinkler, etc. — or deciding whether or not to buy new snow tires, or wondering if there's any antifreeze left in the radiator of the old buggy. Maybe you are doing the same thing; then again, maybe you are lucky — you live in the sunny southland. But, whether we dust off a snow shovel or replace the worn out cushion in the lawn chair, we are probably preparing for days ahead and wishing days past were not over.

As we winterize the old buggy, the house (take down screens; put up storm windows), or turn up the furnace (southlanders just turn off the air conditioning), do we *winterize* our minds and become *weatherwise* to the little goodies that Ole Man Winter reserves just for those magnificent men in their flying machines? I mean things like icing, freezing precip, sleet, snow, obscurations, poor visibilities, and even winter thunderstorms — winter thunderstorms?

Does this illuminate the cranium with fond memories or thoughts of, "Boy, I'll never forget when . . .?" Maybe you are ahead of the game and have already started to bone up on winter flying hazards. If not, I invite you to join me in the inner sanctum of the *weather guesser* to meditate upon seven little lessons you should remember about winter flying weather.

Watch for the Bottom to Drop Out. Winter is noted for rapidly moving frontal systems. Conditions change from clear and 10 to below minimums in a few short hours or vice versa. Because frontal systems may move cross-country at 40 knots or more, reported observations and forecasts are very important to you as you flight plan. Clear your flight on forecasts, but verify them en route with the latest observations. Because terminal conditions can change rapidly, the forecast gives you valuable information for logical decisions. Bear in mind that the sun gives little warming during winter, so fog and stratus lift slowly.

A Jacket on Your Back is Worth Two in the Locker. The rapidly moving frontal systems change balmy weather into frigid, bitter cold. When you fly, dress appropriately — it may save your life. You may rely fully on the aircraft heating system, but heating systems do fail. Wear the clothes, footwear, and head gear that you could survive in even during the worst weather and on the coldest day along your flight path.

Ice is More Becoming in Your Drink Than on Control Surfaces or Air Intakes. One of the most fearful winter hazards is ice which may appear in three forms: clear, rime and/or frost, or any moisture thereof. All that you need for ice is freezing temperatures, visible moisture, and freezing nuclei which is triggering action for ice formation (your airplane is a nucleus). Frost looks rather harmless when you see it on your aircraft on a cold winter morning, but let's face it, the bird won't fly with frosted control surfaces.

Icing on the airframe, windshield, or air intakes can lead to disaster. If icing is forecast or encountered, apply tech order instructions without hesitation to forestall or get rid of ice formation. If that fails to solve the problem, look for a more favorable environment and get there as soon as possible.

TERIZE

When the Forecast "Busts," Head for the Alternate Without Delay. Even though forecasts are an important tool when you flight plan, they do "bust" occasionally. The destination forecast may not warrant an alternate, but why not take along a little insurance and have an alternate in mind — maybe even two. FAA Flight Service Stations broadcast weather reports at 15 minutes past each hour. In addition, SIGMETs are broadcast every 15 minutes and AIRMETs every 30 minutes at 15 and 45 minutes past the hour. They are an additional source of information to keep yourself up to date on weather en route and at destination. If it appears that conditions are marginal, think what Confucius probably once said, "If you don't know, don't go!"

Beware of X's and Precipitation. When the prevailing visibility drops below seven miles, the observer will report some type of restriction. This is the time for you to rub the sand out of your eyeball sockets and start keeping tuned in on the present weather at Podunk Hollow Air Force Base. Remember that the visibility in precipitation as seen by an observer is much greater than what you see as you squint through the precip splashing over your windshield at 200 knots plus. If an observer can see three miles in precipitation, there may be times you can barely see a mile through your windshield.

The *seeing* really gets bad on your part when the observer reports an obscuration (X). You as the flight weary aviator will probably see *zilch* in the same weather conditions. A partial obscuration (—X) is just a little better than *zilch.* So prepare yourself and expect the worst when obscurations are reported.

When Snow and Ice Appear and the Crosswinds are Blowing, Wave Off and Return Another Day. Most winter accidents occur during landing and takeoff. Even under ideal conditions, these phases are crucial times of the operation. Add snow and ice to the runway, accompanied by a breezy crosswind and circumstances are right to generate statistics. You should know your limitations with respect to your aircraft. It is your decision to land or not to land on snow and ice, but don't forget, it's less embarrassing to abort than to climb meekly out of a bent airplane and face the wrath of a commander.

Your friendly pilot to forecaster service is always standing by to offer assistance on all your weather needs. Just give a call; our forecasters are eager to serve you.

Educate and Contemplate, But There's No Need to be Late or Hibernate. Just don't press your luck. Be eternally vigilant; a little mistake can cause a big accident. Safety is no accident. Be weatherwise to fly safely.

One added thought — winter thunderstorms ahead of and along rapidly moving cold fronts are just as vicious as those in the summer. The hail is just as severe, the up and down drafts are just as strong, the lightning just as bright, and the rain the same intensity — you can't see through it. They deserve your respect, so avoid them as if they carried plague germs.

An ounce of prevention is worth a pound of cure, so bone up on the flying hazards of Ole Man Winter, and you will live to fly another year.

Giant Voi

This year, the concept of the Bombing and Navigation Competition has been expanded to include participation by all SAC bomber and tanker aircrews. In addition, all missions will be flown under the limited preparation time concept that was used in the 1975 SAC Operation HIGH NOON.

The competition is designed to provide the command with an evaluation of each unit's capability to accomplish missions that require planning and execution with minimum preparation time. Competition objectives include increasing the overall ability of the individual and the command to perform its primary mission, recognition of crew professionalism, enhancement of esprit de corps, improvement of bombing and navigation proficiency, and evolution of new concepts.

The 1976 SAC Bombing and Navigation Competition is being conducted in three phases. The preliminary phase was accomplished in July-August, the semifinal phase was completed in September and the final phase, 4-5 Oct 76, will be conducted on designated competition routes. A post mission competition symposium will be held at Barksdale on 6-7 Oct 76, and will conclude with the presentation of awards.

Each SAC bomb wing and noncollocated air refueling unit, and a RAF Strike Command detachment will participate in the competition. Each SAC unit will be represented by four bomber and/or four tanker crews. The RAF will be represented by four bomber crews.

The top three bomber and tanker crews in the preliminary phase and one additional bomber and tanker crew selected by the wing commander represented the unit in the semifinal phase.

The RAF will be represented by four Vulcan crews selected by RAF Strike Command and will operate from Barksdale during their stay in the CONUS.

Each unit's top two bomber and tanker crews in the semifinal phase advances to the final phase. All crews participating in the final phase will attend the competition symposium at Barksdale.

All missions launch and recover at the unit's home base. Each unit flew one bomber and/or tanker mission on each of the four semi-final phase days, 27-30 Sep 76. Each unit's top two bomber and/or tanker crews will fly one mission during the final phase on 4-5 Oct 76. Crew order of flight is at the unit's discretion. Mission activity will include:

BOMBER MISSIONS

- One RBS scored high altitude single release bomb run with evasive action.
- One RBS scored missile defense ECM run (MDR) in conjunction with the high bomb run.
- Two RBS scored low level sync-sync bomb runs.

TANKER MISSIONS

- Two RBS scored radar precision terminations with scored control times.

AWARDS

Fairchild Trophy. Awarded to the top SAC bomber-tanker wing based

ce '76

on total points compiled during the competition by the semifinalist and finalist crews except that ECM scoring will not be used. Total possible points: 8400.

Mathis Trophy. Awarded to the top bomber unit based on total points compiled in high and low bombing during the competition by the semi-finalist and finalist crews. Fairchild Trophy winner is ineligible for this award. Total points possible: 6000.

Saunders Trophy. Awarded to the top tanker unit based on total points compiled in the competition by the semifinalist and finalist crews. Fairchild Trophy winner is ineligible for this award. Total points possible: 2400.

Crumm Trophy. Awarded to the B-52/Vulcan unit that compiles the most points in high altitude bombing by the finalist crews on both their semifinal and final missions. Total possible points: 800.

John C. Meyer Trophy. Awarded to the FB-111 unit that compiles the most points in low altitude bombing by the finalist crews on both their semifinal and final missions. Total possible points: 3200.

Bombing Trophy. Awarded to the bomber crew that compiles the most points in high and low bombing on both the semifinal and final missions. Total possible points: 2000.

Best Crew. Awarded to the crew in each type participating aircraft that compiles the most points on the semifinal and final missions.

The 1976 SAC Bombing and Navigation Competition, with this year's added feature of expanded participation by all SAC bomber and tanker crews, will give commanders a useful means of evaluating and determining the capabilities of their staffs, aircrews and support personnel.

Good luck to all participating crews.

OTSL TRAINING TOPICS

... A SYNOPSIS OF NEW PROGRAMS FOR SAC AIRCREW TRAINING

We hope these articles are not only keeping you abreast of the latest training programs from OTSL, but are also stimulating your imagination as to new shows and more effective ways of presenting old material. We, of course, solicit your ideas and opinions at all times, but an excellent way to convey your feelings directly to an OTSL representative is during our Training Support Evaluation Visits (TSEVs). Each SAC wing and using organization is visited once a year for three or four days by one of the officers from OTSL. As the term implies, a TSEV is an evaluation, not of your organization, but of ours, to tell us how well our products are meeting your needs. When the OTSL representative visits your base be honest with him and give constructive comments. Remember, our job is to serve you.

Here are the most recent videotapes from the television studio. (NOTE: Programs are unclassified unless otherwise so stated)

1. "SAC Simulation Briefing" — an overview of the progress being made in the area of flight simulation. It discusses advancements in the technology of motion and visual simulation and the on-going procurement efforts to secure new and improved simulation devices.
2. "Hangar Flying" — the first in a series of programs designed to keep you informed of significant events. This particular program, dated 28 Jun 76, is an interview with the three pilots who experienced complete hydraulic failure of number 1 and 2 systems on a B-52D. It discusses the events leading up to a successful landing at the Edwards AFB dry lake bed. It is very stimulating and thought provoking for anyone associated with flying.
3. "Soviet Strategic Forces" — a SECRET program that provides current official information on all Soviet strategic offensive (ICBM, SLBM, bomber) and defensive (interceptor, SAM, ASW, ABM civil defense) forces. It also includes a resumé of Soviet strategic strategy.
4. "Electronic Warfare Principles (EWP 1-1), Part I" — This is the first of an eight-part series. Parts one, six, seven, and eight will be videotape with parts two through five on sound/slide. This SECRET program provides an introduction to the Soviet defensive threat environment. It provides a general overview of Soviet airborne, shipborne, and landbased defensive systems with emphasis on the inter-dependency of the control radar environment, the airborne interceptor force, and the surface-to-air missile force.

Two shows that you will be viewing before long involve SAC Emergency Actions. The first program reviews the changes to the procedures and the second program actually covers the JCS message formats. Another program in the B-52 SRAM series will soon be released emphasizing normal procedures and recommended techniques. For our "swing wing" friends, there will be a part five to the FB-111 SRAM series covering malfunction analysis.

Just a reminder for all users of the videotape programs. When each new program is shipped, two videotape feedback questionnaires are placed inside the cassette containers. We encourage **everyone** to provide us with information about the programs so that we in turn can provide you with a better training product. These are an invaluable source of feedback for us, so reproduce as many of the forms as you need. Remember, the return address is on the backside of the form, and we need your comments!

As was mentioned earlier, our new series, "Hangar Flying," is designed to keep you informed of significant events throughout the command. What's significant? We are receptive to any ideas or happenings that you feel could be of interest or provide knowledge to the rest of the command. Our phone number is autovon 739-7034; so let's hear from you aircrews, missile crews, staff — everyone!

THE NEW CFIC

Capt Stetson J. Orchard
93 AREFS, Castle AFB

There's been a lot of talk recently about the young crew force and its lack of experience. There has been a feeling for a long time that we just can't sustain our enviable safety record as well as our defense posture with such a young force. And they're even thinking about cutting our budget which in the long run will further restrict our flying time allotment.

It's a classic dilemma; how do we keep our forces current, how do we keep them alive with significant cutbacks in our flying time? It will eventually boil down to a very basic truth. We must be able to do the same job better with less resources. In the flying game, we've got to tighten our belts, improve our instructors' abilities and in the long run make him capable of doing more jobs in the instructor's realm of responsibility.

The qualification requirements for SAC instructors in the last few years have remained pretty much the same, but the experience levels have taken a nose dive. Flying time waivers are becoming the rule rather than the exception. If the instructor doesn't have extensive experience, wing commanders want them to have at least some formal training on how to instruct (something which many present instructors have never had). They also want a man who can handle any instructor job, in his specialty, on any given day. For example, today he can be in the simulator, tomorrow he is in the classroom teaching emergency procedures, the next day he is flying to instruct a PUP and evaluate a copilot. This example is perhaps extreme, but the point is that we must have instructors who can handle all the duties of his crew position equally well.

And so on the horizon, perhaps very near, is a new school which will start to solve some of the problems. That school will be called Central Flight Instructors Course (CFIC), but there the similarity between the present CFIC and the new CFIC ends.

The new CFIC will replace almost completely the present course at Carswell AFB. A small B-52D contingent will remain at Carswell and fall directly under the 4018 CCTS commander. B-52G/H and KC-135 CFIC will move to Castle AFB and operate as a division under the 93 BMW/DO. Students will receive training in the aircraft that they fly at their home station.

It's not that the present CFIC isn't doing its job. On the contrary, they still put out the best instructor pilots in the world. But we need well trained instructor navs, EWOs, gunners, and boomers, too. With the decrease in experience and the need for much more standard instruction throughout SAC, the course has been lengthened for pilots from two weeks to five.

In an effort to produce the best trained instructor and still provide wing commanders with a valid measure of the instructors' capabilities, the course will be directed toward the instructor-to-be. Students will be nominated for attendance from their home base. Upon notification of selection, each student will be sent a workbook which must be completed before the course convenes. This workbook will set the baseline for the most comprehensive and challenging instructor course ever.

Since the Central Mission Trainer Instructor Course (CMTIC) ceased to exist on January 1, 1976, there has been a continuing need to provide some type of instruction for simulator instructors. The new CFIC will provide this by incorporating the academic, simulator, and flight phases of instruction into one well-rounded and adaptable instructor for each specialty. By using the simulator as a preparation tool for each training flight, maximum exposure and learning can be accomplished with a minimum number of flights. Student instructor presentations will enhance confidence for large group platform instruction.

There will probably be no formal 60-4 evaluation of each instructor candidate while he is attending the course; however, each student will return to his home station with a recommendation from the school of either upgrade/not upgrade depending on the student's performance and abilities while at CFIC.

Let's look at some of the benefits of the new course. First of all, SAC will be able to stabilize and receive more return from its instructor force since each graduate will incur some sort of commitment to instructor duties. In a short time, SAC will begin to see less variation in the techniques of instruction in the various phases in flying training. The new CFIC will produce a safe, aggressive instructor who is eager and is qualified to teach on any of several levels from flight through academics.

Sure, our crew force is getting younger but that doesn't mean we can't do the job just as well, if not better, than our predecessors. As we get more and more limited in resources and experience our need for quality instructors cannot be overemphasized. We need a dedicated and aggressive instructor who has gained all the experience he can from the classroom.

NATIONAL SAFETY COUNCIL AWARDS

AWARD OF HONOR

The Award of Honor is NSC's highest award and it recognizes significant reductions in disabling ground accidents.

22 Bombardment Wing
341 Strategic Missile Wing

AWARD OF MERIT

The Award of Merit is the NSC's second highest award and it recognizes outstanding achievement in reducing disabling ground accidents.

321 Strategic Missile Wing
90 Strategic Missile Wing
43 Strategic Missile Wing
19 Bombardment Wing
68 Bombardment Wing
3902 Air Base Wing
3 Air Division

CERTIFICATE OF COMMENDATION

The Certificate of Commendation is awarded annually to organizations in recognition of significant achievement in reducing disabling ground accidents.

916 Air Refueling Squadron
11 Air Refueling Squadron
6 Strategic Wing

PERFECT RECORD CERTIFICATE

The Perfect Record Certificate is presented to organizations who achieve accident free operation for the previous calendar year.

4000 Aerospace Applications Group

OUT BASKET

New T-39 Baggage Limit

Strategic Air Command personnel planning to travel via T-39 should "keep it light," say Military Airlift Command officials.

MAC officials announced new baggage restrictions for all T-39 Sabreliner flights. The baggage weight allowance has been cut from 66 pounds to 30 pounds in most cases.

The cutback is necessary to allow a T-39 with a full passenger load to stay within bulk and weight limitations, officials say. With a full passenger load, only a small amount of room is left for baggage.

Baggage requirements for more than 30 pounds may be allowed but must be identified through requesting channels, they said. Space available passengers also have 30-pound limits.

Reflective tape on flight suits

Captain Bill Robertson from the 97th Bomb Wing suggests a way to reduce the hazard to crews responding to night alerts.

There is a potential hazard of aircrew members responding to night alerts and not being seen by fast ride vehicles and other vehicle traffic. A six-inch strip of velcro pile sewn to the side and rear of each flight suit cuff can be used to attach a six-inch strip of reflective tape sewn to a six-inch strip of velcro hook. All of these strips are one-inch wide. This is in compliance with T.O. 14-1-14, section II, page 2-1, paragraph 2-6 and section III, page 3-1, paragraph 3-8, provided the commander authorizes their use in his organization. If the Alert Force is executed, these reflective strips will be removed and the E&E effort not degraded. The 97BMW has had excellent results and wishes to share this idea with other wings. The cost of this safety factor for our two squadrons was $300.00.

ONE LAST WORD . . .

Continued from Page 3

actions to handle almost every situation.

The crew member must eliminate the temptation of the double standard. There is only one way to accomplish the mission, and that is by following directives. Our directives have evolved through years of experience as the most effective and efficient methods of mission accomplishment. Incidentally, it's been my observation that regulations and directives are not only the proper way to perform a certain task but also the **easiest!**

As crew members, you must discipline yourself to this fact until it becomes second nature to you; you will then have taken a major step toward becoming a true professional. Professionalism and discipline go hand in hand and I consider them synonymous.

Over the years, I've observed the mark of an amateur in any field is to lose his head when the going gets tough. The mark of a professional, on the other hand, is his competence in an emergency, and the characteristic of a professional crewman is his ability to make sound judgments while immersed in difficulties.

Professionalism has always existed in SAC. It is the major factor in the command's outstanding success. I saw professionalism firsthand when I flew with many crews out of U-Tapao where I served as wing commander. I was impressed with their attention to duty; flying was the primary job and everything else was subordinate to that end. That is the way it must continue to be.

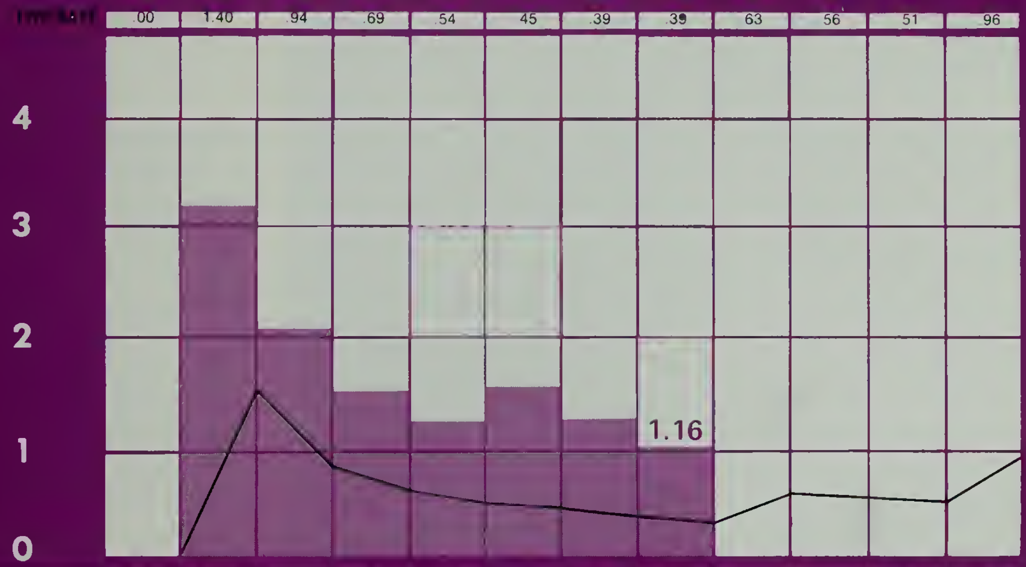
I have always had a deep regard for the professional crew members. They consistently come through when the chips are down. As the years have progressed, greater demands have been placed on crews as more efficient, yet more complicated equipment came into SAC's inventory. Future weapon systems will be even more sophisticated and demanding. Never in Air Force history has it been more critical than now to have a totally professional crew force.

I leave SAC with confidence and pride. I have no doubt that you can meet the coming challenges. Crew discipline will play a vital role in future achievement and in the final analysis it will be the individual crew member who must strive for, and attain, the highest level of professionalism. Once complete self-discipline is realized, we will have attained the highest level of professionalism. This is your challenge. I end my Air Force career with the full knowledge that you, the combat crew member, will carry on in the highest tradition of the Strategic Air Command.

Good-bye and Godspeed.

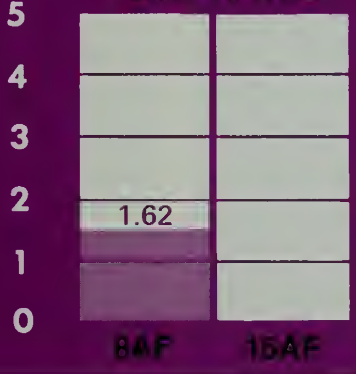
1976 Flying Safety Rate

SAC MAJOR ACCIDENT RATE (PER 100 000 FLYING HRS)



ACCIDENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1975	0	1	0	0	0	0	0	0	1	0	0	2
1976	0	2	0	0	0	1	0	0				

1976 SUBORDINATE CMD RATES



ACCIDENT STATUS

KC-135	FEB 76
FB-111	FEB 76
FB-111	JUN 76

LEGEND ⌃ =1975 RATE

BIG INSTRUMENT

VISIBILITY — TO LAND OR NOT TO LAND

PART III — THE RULES

Capt John L. Wilson
1st Combat Evaluation Group,
Barksdale AFB

In sports there is an old saying that if you don't know the rules, you can't play the game. A modification to this might be — if you play the game without knowing the rules you will probably lose. In flying, if you don't know the rules, the loss may be in the form of a bent air frame, an end to your flying career, and maybe even an end to your life. Let's briefly review some of the rules established for making instrument approaches.

The first rule concerns familiarity with the weather. We are required to obtain sufficient information to determine if the mission can be completed as planned. This information will include expected weather and subsequent trends, and could be the only basis for preflight or enroute decisions. In addition, there is a requirement to update weather forecasts to obtain the latest information that could cause an alteration of the planned flight. This weather information should include enroute, destination, and alternate weather if required. If you think about it, this "rule" is good common sense. The weather forecasters try to give you the best information while continuing improvements in the science of weather forecasting are being made. But the weather is still not completely predictable, and it can change rapidly.

With the latest weather information, a decision has to be made as to whether the field is below minimums. The definition of below minimums for straight-in approaches is when the existing visibility is less than the lowest visibility published for an operational approach aid to the active runway. The operational approach aid must also be compatible with the equipment available on board the aircraft. Runway Visibility Range (RVR) is the primary visibility figure to use in this determination. Where RVR is not available, the Runway Visibility (RV) followed by Prevailing Visibility (PV) is used. Remember that RVR is contained in the remarks section of an aviation weather report and does not reference the applicable runway, i.e., RVR 30. However local USAF dissemination procedures have recently changed in that when RVR is applicable, it will be given right after PV; for example: 1 R-FR23VR30. In this case, the respective runway is included. What is local dissemination? It is the information that comes over the electrowriter.

The penetration/enroute descent/approach may be started only if the reported visibility is at or above the visibility minimums required for the approach you intend to fly (ceiling and prevailing visibility must be used for circling approaches). Remember to apply the SAC minimums to the required visibility for PAR approaches. If the published approach has a DH that provides a HAT of less than 200 feet and the required visibility is less than 2400 feet (½ mile), then you must apply the SAC minimums. AFR 60-16/SAC Sup 1 has other minimum requirements that should be applied to special circumstances. The question often comes up concerning practice approaches when the weather is below the minimum required visibility. The answer is obvious; you cannot legally start the approach under such circumstances.

Once you have started the penetration / enroute descent / approach and the weather drops below minimums for that approach, you cannot land. There are a number of options open to you, depending on the fuel status, weather conditions, etc. If there is an approach available with minimums less than the current conditions, you could transition to that approach. You could hold and wait for better conditions, keeping in mind your fuel status and the weather trend. Or, you could proceed to your alternate. The decision is up to you, and the situation at the particular time will influence your decision. Keep in mind that you cannot deviate from your last clearance while awaiting a revised clearance, but should continue toward the missed approach point.

The last area to discuss in the decision to land. Here again specific guidelines are in AFR 60-16 and AFM 51-37. You can descend below DH or MDA and land only when all of the following four criteria are met.

(1) The visibility is at or above the minimum visibility required for the approach (after adjusting for SAC minimums).

(2) Cleared to land by the appropriate agency.

(3) The approach threshold of the runway or approach lights or other markings identifiable with the ap-

proach end of the runway are clearly visible to the pilot.

(4) The aircraft is in a position from which a normal descent to landing can be made.

If any of these conditions are not met, a missed approach must be executed. Even when these conditions are met at DH or MDA, you should still be prepared to execute the missed approach if conditions deteriorate after departing the minimum altitude.

These landing conditions are fairly broad and leave a lot of room for pilot judgment. For instance, what may be considered a safe position from which to land one day may not be a safe position on another. Factors such as cross winds, turbulence, aircraft status, crew fatigue, etc., should also influence your decision.

These then are the basic rules involved in making the approach and landing decision under marginal weather conditions. They come from a few short paragraphs of AFR 60-16, but are fairly complex. They must be thoroughly understood and properly applied at the appropriate time. Good, sound pilot and crew judgment and timely decisions must be made, applying all factors that could affect the successful completion of the landing. In flying, the game involves millions of dollars in equipment, and more importantly, the lives of a highly trained, highly skilled professional crew. As stated at the beginning of this article, you can't play the game unless you know the rules.

OPS HAZARDS

A MATTER OF OBSERVATION — On takeoff while on a stopover flight plan, the -135's right main gear would not retract. A holding pattern was established and the command post was contacted for a decision on gross weight adjustment for landing. While waiting for a decision, and anticipating a return to home station, the pilot lowered the gear to increase fuel burn off. The decision, however, was to proceed to the next destination.

While enroute, the AC decided to raise the functional gear again to facilitate a climb to avoid isolated thunderstorms and to save fuel. Upon raising the handle, all three gear fully retracted and indicated up and locked. The command post was notified and the pilot was instructed to return to home station where an uneventful landing was made.

Upon inspection of the right wheel well, a 10-inch hole was found through the outside of the right gear door. The hole was caused apparently by the gear pin flailing around on the end of the red streamer which was caught in the gear mechanism. Although the pin was missing, there is little doubt it was sheared.

The AC made his preflight walk around as the refueling was terminating and the pin was still in at this time. However, no one insured it was removed. During the interior inspection the boomer reported six ground safety locks stowed. One might wonder if they were counted. Foxtrot checked the aircraft prior to takeoff and did not report any discrepancies. Since the incident occurred during daytime the streamer should have been visible.

Give this incident some serious thought and decide if it could happen to you. If the answer is yes, action now may prevent an accident in the future.

TAXI TRIPLE — An FB-111 taxiing down the yellow line on the parking ramp impacted a step van with the left wing tip. The aircraft commander stated the vehicle was within his field of vision but did not understand why he did not perceive it as a threat to the taxi route.

A B-52 left wing tip was damaged in the parking area. A power cart was within seven feet of the taxi route so the AC decided to use a little crosswind crab to increase the distance as he taxied out. He went the wrong way with the crab and snagged the power cart with his wing tip.

After a maintenance cancellation of a B-52 night mission, the crew agreed to taxi the aircraft to the hammerhead for a maintenance engine run. Meanwhile, an AGE tractor was returning via the same taxi route. When the driver saw the BUF taxiing toward him, he turned out his lights and attempted to clear the taxiway; however, he stalled the tractor. The driver attempted to restart the tractor until the aircraft was too close for safety. He abandoned the unlighted tractor and ran to a dispatch vehicle to radio the BUF to stop. The message was not sent in time. The B-52 got the tractor with the left drop tank and the number one engine nacelle. The pilots never knew they hit the tractor until after maintenance men stopped the aircraft and told them of the damage.

We all know who is responsible for a taxi accident. These three red-faced pilots will be much more careful next time they taxi an aircraft.

PROFESSIONAL PERFORMERS

FLYING CREW 28 Bombardment Wing, Ellsworth AFB, Crew R-24: P Capt George F. Rayl, CP Capt Nicholas J. Hinch, RN Capt Stuart E. Morthole, N 1Lt Paul E. Seymour, EWO Maj Gregory K. Ferrier, G SSgt John T. Bischof.

Individuals selected for these pages as SAC's top professional performers of the month are chosen from nominations made by all SAC units. Selection is made only after all nominations have been carefully screened and those chosen meet the highest standards of excellence as outlined in SACR 127-2.

MINUTEMAN Crew E-192, 44SMW, Ellsworth AFB: MCCC Capt Kent L. Huebner, DMCCC 2Lt Paul R. Scott.

MAINTENANCE MAN SSgt Charles L. Klaboe, 449 Munitions Maintenance Squadron, 449 BMW, Kincheloe AFB.

SAFETY MAN Capt Buddy W. Burkhart, 97 BMW Flying Safety Officer, checks parachute condition.

TITAN Crew R-035, 308SMW, Little Rock AFB: MCCC Capt Jan A. Wilgers, DMCCC 1Lt Eric L. Stone, MSAT Sgt Michael W. Stigall, and MFT A1C Larry C. Nunley.

HALL OF FAME

TACTICAL FLYING

OVER SEVENTEEN YEARS

916 AREFS, Travis	Sept '59

OVER SIXTEEN YEARS

97 BMW, Blytheville	Mar '60

OVER FIFTEEN YEARS

410 BMW, K.I. Sawyer	Oct '60
19 BMW, Robins	Oct '60

OVER FOURTEEN YEARS

11 AREFS, Altus	Feb '62
301 AREFW, Rickenbacker	Jul '62
96 BMW, Dyess	Aug '62
449 BMW, Kincheloe	Aug '62

OVER ELEVEN YEARS

320 BMW, Mather	Jul '65

OVER NINE YEARS

92 BMW, Fairchild	Feb '67
55 SRW, Offutt	Jul '67
2 BMW, Barksdale	Aug '67

OVER EIGHT YEARS

319 BMW, Grand Forks	Dec '67
22 BMW, March	Feb '68

OVER SEVEN YEARS

5 BMW, Minot	Feb '69

OVER SIX YEARS

42 BMW, Loring	Oct '69
93 BMW, Castle	Nov '69
28 BMW, Ellsworth	May '70

OVER FOUR YEARS

7 BMW, Carswell	Mar '72
416 BMW, Griffiss	May '72
305 AREFW, Grissom	Aug '72

ICBM

OVER TWELVE YEARS

381 SMW, McConnell	Nov '63
90 SMW, F.E. Warren	July '64
1 STRAD, Vandenberg	Sep '64

OVER ELEVEN YEARS

308 SMW, Little Rock	Aug '65

OVER SIX YEARS

341 SMW, Malmstrom	Apr '70

OVER FOUR YEARS

321 SMW, Grand Forks	Aug '72

To gain listing in the Hall of Fame, a SAC unit must be accident-free for 48 months.

SAC SAFETY SCREEN

42BMW, Loring Crew S-03: P Capt Peter Carellas, CP Capt Roy Widder, CP Lt Tony Beat, RN Lt Rob Richey, N Lt Steve Salfeety, EWO Capt Bruce Barker, G Sgt Jack Ganley

509BMW, Pease Crew S-29: P Capt William R Laurier, N Lt Douglas E Kohlhepp

416BMW, Griffiss Crew S-01: P Capt George K Grosskopf, CP Capt Frederick W Chapman Jr, CP Capt John B Mallory, RN Capt John F Gainey, N Capt John A Wahlquist, EWO Capt Terry M Berry, G MSgt Lawrence F O'Neil

410BMW, K I Sawyer Crew R-112: P Capt Steven F Rechner, CP Lt Richard E Fitzhugh Jr, N Capt Larry L Shanks, BO TSgt David S McNeill

509BMW, Pease Crew S-08: P Maj Leonard A Seagren, N Maj Robert M Wagner

509BMW, Pease Crew E-113: P Capt William W Buddenhagen, CP 1Lt Robert S Hartmaier, NN Capt John C Puccio, BO MSgt John A Davis

5BMW, Minot Crew E-105: P Capt Michael E Shockey, CP 1Lt James A Hummel, CP 1Lt Dennis B Fay, NN 1Lt Rodney L Mize, BO SSgt John M Rytkonen

17BMW, Beale Crew R-124: P Capt Charles G Goin, CP 1Lt Theordore C Beitel, NN 1Lt Keith E Salisbury, BO A1C John M Lobenberg

55SRW, Offutt Crew E-09: IP Capt Robert N Vernlund, CP 1Lt Ronald J Allen, IN Maj Clifford N Shiers, NN Maj John T Queen

320BMW, Mather Crew R-104: P Capt John C Moore, CP 1Lt John E Vice, NN Capt Stephen P Jacobs, BO SSgt Stanley K Nosik

2BMW, Barksdale Crew R-58: P Capt William S Morgan III, CP Capt George D Howell, RN Capt Lawrence N Hyland, N 1Lt Ben L Sinor, EWO 1Lt Paul L Attwood, G SSgt Paul J Young

90SMW, F E Warren Crew E-127: MCCC Maj Paul G Johnson, DMCCC 2Lt Steven M Sanders

321SMW, Grand Forks Crew E-143: MCCC 1Lt Phillip J Crawford, DMCCC 2Lt Charles J Talley

351SMW, Whiteman Crew S-079: MCCC Capt Howard G Sholl Jr, DMCCC 2Lt William L Goetz

381SMW, McConnell Crew R-054: MCCC Capt Wayne E Watts, DMCCC 2Lt Lawrence H Mitchell, MSAT SSgt Eric Forsman, MFT A1C John H Robertson

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crewmembers must be nominated by their unit commanders and meet selection criteria of experience in their aircraft or missile system IAW SACR 127-2.

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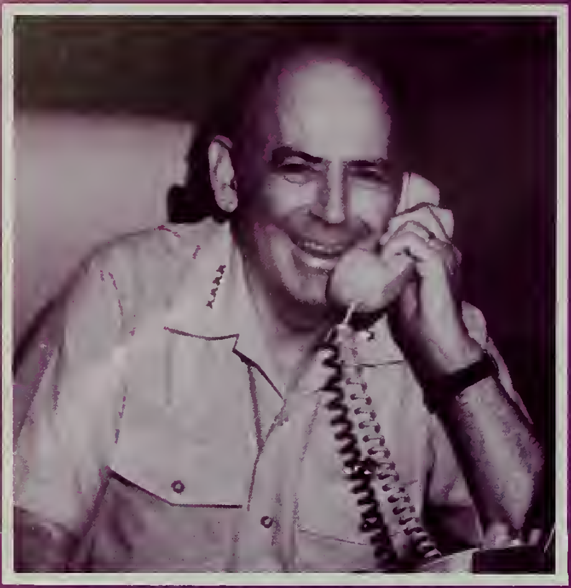

SR-71

9th SRW BEALE AFB SPEED RECORDS

SPEED-1000KM CLOSED COURSE	2,086 MPH
SPEED-STRAIGHT COURSE	2,189 MPH
ALTITUDE IN HORIZONTAL FLIGHT	86,000 FEET